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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,555	07/25/2003	Nicolas Eches	CELA:104	9329
27890	7590	01/04/2006	EXAMINER	
STEPTOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			CHAMBERS, TROY	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/626,555		ECHES ET AL.	
	Examiner		Art Unit	
	Troy Chambers		3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 9, 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites the limitation "said two supports being furthest apart". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art Figure 2 in view of US 444114 issued to Bisping.
5. With respect to claim 1, 3, 7 and 8, Figure 2 is disclosed as being the same (pg. 6, ll. 6-8) as applicant's Figures 4a and 4b (elected by the application in response to a previous restriction requirement) and "differs from the latter in that the sabot 2 incorporates three substantially calibrated support seats that are axially spaced from one another." Hence, Figure 2 as interpreted as anticipated all claimed subject matter of

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claim 1 with the exception of the spaced "forward"¹ support seat. Figure 2 also includes a banded push plate PP and a rear support seat comprising integral, radial studs 9.

Bisping discloses a munitions round for a barrel type weapon comprising forward, median and rear supports seats. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the sub-caliber projectile of Figure 2 with the 3 support of Bisping. The suggestion/motivation for doing so would have been to provide for centering of the projectile assembly.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art Figure 2 and Bisping as applied to claim 1 above, and further in view of applicant's Figure 1. Figure 2 and Bisping do not disclose, expressly, the distance between the furthest support seats. Applicant's Figure 1 discloses a forward support seat at a distance (l) of 2.5 calibers from a second support while applicant's Figure 2 discloses a rear support seat an equal distance (l) of 1.5 calibers a second support. One having ordinary skill in the art would find it obvious to provide an axial distance of not less than 3 times the gun barrel diameter to provide the moment arms necessary to overcome the bending forcing experienced by the projectile upon firing. Moreover, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide said axial distances, since it has been held that discovering an optimum value of a result specific variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, USPQ 215 (CCPA 1980).

¹ The middle support 2 of prior art Figure 2 will become the "forward" support once the rear support of Bisping is added to the device.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Figure 2 and Bisping as applied to claims 1 and 3 above, and further in view of case law. Neither Figure 2 nor Bisping appear to disclose the axial distance between the push plate and a median transverse plane. However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide said axial distances, since it has been held that discovering an optimum value of a result specific variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, USPQ 215 (CCPA 1980).

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Figure 2, Bisping and case law as applied to claims 1-4 above, and further in view of US 5359938 issued to Campoli. A sub-caliber projectile in accordance with claims 1-4 has been discussed above. However, the prior art projectile does not disclose a forward seat comprising radial arms, each having a plastic foot.

9. Campoli discloses an ultralight sabot with a forward support comprising 3 radial arms 44, each having a stainless steel foot 70. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the prior art device as discussed with respect to claims 1-4 with the forward support provided by Campoli. The suggestion/motivation for doing so would have been to allow for a reduction in weight and increased airflow to the scoop area to aid in separation of the sabot sections (col. 7, ll. 28-35).

10. With respect to the foot 70 being stainless steel instead of plastic, it would have been obvious to one having ordinary skill in the art at the time of the invention was

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made to substitute the stainless steel for plastic since it has been held to be within the general skill of a worker in the art to select known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

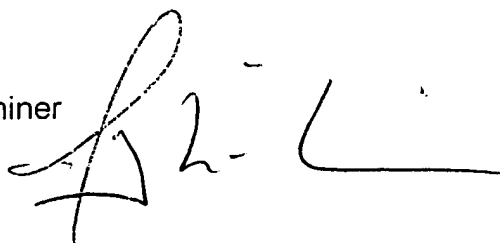
Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited on form PTO-892 are cited as of interest to show similar

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (571) 272-6874 between the hours of 7:00 a.m. to 3:30 p.m., M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (571) 272-6873.

Troy Chambers, Examiner

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A handwritten signature in black ink, appearing to read 'Troy Chambers', is written over the printed name and title.